

## Description

# TISSUE-DISPENSING APPARATUS

### BACKGROUND OF INVENTION

- [0001] The present invention relates generally to tissue-dispensing devices, and more particularly to a tissue-dispensing apparatus having a simple construction for easy manufacture and installation thereof, as well as low manufacturing costs associated therewith.
- [0002] Tissue-dispensing devices are well known. These devices have various constructions and are utilized in a substantial number of different applications.
- [0003] For example, a conventional toilet tissue dispenser is comprised of two arms for attachment to a wall. However, it is understood that these support arms can instead be attached to a bathroom stall partition, a door, or other suitable mounting surfaces as desired. Ordinarily, these arms are intended to receive and support a pair of opposing end portions of an axially collapsible spindle.
- [0004] This collapsible spindle typically is comprised of two tubular elements that are slidably fitted together. In par-

ticular, one of these tubular elements usually is sized slightly larger than the other such that the tubular elements can substantially overlap each other as the spindle is compressed along its axis. The spindle also typically includes a spring or other suitable biasing mechanism for disposing the spindle in an extended position. This spindle usually is inserted into a cardboard core of a tissue roll. Thereafter, the spindle usually is compressed inwardly along its axis so as to fit the spindle in between the support arms. Then, the spindle is released and the spring causes the opposing end portions of the spindle to engage the support arms. As a result, the tissue roll is mounted on the toilet tissue dispenser.

[0005] A drawback of this toilet tissue dispenser is that its structure typically fails to shield the toilet paper from dust and various other kinds of bathroom contamination. Such a result clearly is undesirable.

[0006] Another example of a tissue-dispensing device is a moistened tissue paper dispenser as disclosed in U.S. Pat. No. 5,439,521. This dispenser is similar to the conventional toilet tissue dispenser because it includes the two support arms for holding the tissue roll. However, this tissue paper dispenser further includes a housing for the tissue

roll. This housing includes a circumferential wall that terminates at opposing ends with a pair of end walls. Moreover, the circumferential wall includes an access panel, which can allow an individual to load a tissue roll into the housing.

[0007] A drawback of this toilet tissue dispenser is that the housing has a somewhat complicated structure with a relatively high number of components. For that reason, manufacturing the dispenser can be relatively expensive.

[0008] Yet another example of a tissue-dispensing device is a one-piece facial tissue dispenser as disclosed in U.S. Pat. No. 5,123,566. This one-piece dispenser is comprised of a top portion and a bottom portion that is pivotally coupled to the top portion by way of a living hinge. The top portion typically includes a clasp that is positioned opposite to the living hinge and is intended to engage the bottom portion. In this way, the top portion and the bottom portion enclose a package of folded facial tissue. The top portion also typically has a slot integrated therein for allowing tissue to be removed from within the dispenser. Moreover, the bottom portion has a recess with either an adhesive tape or a magnet disposed therein. This tape or magnet can be utilized for attaching the dispenser to a

mounting surface.

[0009] A drawback of this facial tissue dispenser is that the living hinge can be substantially weakened and ultimately break after only insubstantial use. Specifically, it is understood that the one-piece dispenser and its living hinge are comprised of a plastic material. One skilled in the art will understand that plastic materials can fatigue and ultimately fracture after being deformed a minimum number of cycles. For that reason, it will be appreciated that the plastic living hinge can break after the dispenser is opened and closed a relatively small number of times. In that regard, the facial tissue dispenser may no longer be usable after a fairly short period of use. Such a result clearly is undesirable.

[0010] Therefore, it would be desirable to provide a tissue-dispensing apparatus that sufficiently protects the tissue from contamination, has a sufficiently robust construction for enduring a substantial amount of use, can be easily manufactured and installed, and is relatively inexpensive to manufacture.

#### **SUMMARY OF INVENTION**

[0011] The present invention provides a tissue-dispensing apparatus. In one embodiment, this tissue-dispensing appara-

tus is intended to attach to a mounting surface, contain a tissue roll, and allow one or more sheets of tissue fabric to be dispensed therefrom. This tissue-dispensing apparatus is a one-piece contoured sleeve. This one-piece sleeve includes a tubular portion and a mounting portion that extends from the tubular portion. The tubular portion is sized for containing the tissue roll. The tubular portion also includes a slot for dispensing one or more sheets of tissue fabric therethrough. Moreover, the mounting portion is intended to attach the tissue-dispensing apparatus to a wall, a door, a bathroom stall partition, or other suitable mounting surfaces.

[0012] One advantage of the present invention is that a tissue-dispensing apparatus is provided that has a relatively simple construction, which requires relatively low manufacturing costs.

[0013] Another advantage of the present invention is that a tissue-dispensing apparatus is provided that is relatively easy to install on a wall, a door, a bathroom stall partition, or various other suitable mounting surfaces.

[0014] Yet another advantage of the present invention is that a tissue-dispensing apparatus is provided that allows for the convenient packaging and dispensing of tissue in vari-

ous environments that require tissue.

[0015] Still another advantage of the present invention is that a tissue-dispensing apparatus is provided that can be attached to a mounting surface adjacent to an exiting door for a restroom thereby allowing individuals to use tissue paper to sanitarily open and close the door.

[0016] Other advantages of the present invention will become apparent when viewed in light of the detailed description of the invention when taken in conjunction with the attached drawings and appended claims.

#### **BRIEF DESCRIPTION OF DRAWINGS**

[0017] For a more complete understanding of this invention, reference should now be made to the embodiments illustrated in greater detail in the accompanying drawings and described below by way of examples of the invention:

[0018] FIGURE 1 is a perspective view of a tissue-dispensing apparatus attached to a mounting surface, according to one embodiment of the invention.

[0019] FIGURE 2 is an exploded perspective view of the tissue-dispensing apparatus shown in Figure 1.

[0020] FIGURE 3A is a side view of the tissue-dispensing apparatus shown in Figure 1.

[0021] FIGURE 3B is a side view of the tissue-dispensing appara-

tus shown in Figure 1, according to another embodiment of the invention.

[0022] FIGURE 4 is a cross-sectional view of the tissue-dispensing apparatus shown in Figure 1, as taken along line 4-4.

[0023] FIGURE 5 is a plan view of a one-piece contoured sleeve shown in Figure 1, illustrating the sleeve before attachment to the mounting surface; and.

[0024] FIGURE 6 is a bottom view of the tissue-dispensing apparatus shown in Figure 1.

#### **DETAILED DESCRIPTION**

[0025] In the following figures, the same reference numerals are used to identify the same components in the various views. The present invention is particularly suited for a tissue-dispensing apparatus that is utilized for containing a tissue roll, dispensing one or more sheets of tissue fabric from the tissue roll, and attaching the apparatus to a bathroom wall adjacent to an exiting door for a bathroom. However, it is understood that the present invention may instead be utilized for dispensing a stack of folded tissue, a roll of plastic garbage bags, or various other items that require convenient packaging and dispensing. In addition, it is contemplated that the tissue-dispensing apparatus

can also be utilized in various other environments as desired.

[0026] Referring to Figures 1 and 2, there are shown a perspective view and an exploded perspective view of a tissue-dispensing apparatus 10, according to one embodiment of the invention. This tissue-dispensing apparatus 10 includes a one-piece contoured sleeve 12, which is utilized for both attaching the tissue-dispensing apparatus 10 to a bathroom wall 14 (as shown in Figures 3A-3B) and containing a tissue roll 16 therein (as shown in Figure 2).

[0027] Preferably, the tissue-dispensing apparatus 10 is attached to a section of the bathroom wall 14 adjacent to an exit-ing door for the bathroom. In this way, a person can use the tissue to open or close the door and protect himself from contaminating his hand when he touches an unsani-tary door handle. This feature is beneficial because it can protect the person's health as well as others whom he en-counters. Moreover, it will be appreciated that this feature is particularly beneficial in the context of public restrooms where a potentially large number of people can use the restroom and then open or close the door without first washing their hands. In addition to the aforementioned example, it is understood that the tissue-dispensing ap-



paratus 10 can be utilized in a variety of other suitable environments as desired.

[0028] As best shown in Figure 3A, the one-piece tubular sleeve 12 is comprised of tubular portion 18 and a mounting portion 20 that extends from the tubular portion 18.

[0029] The tubular portion 18 is utilized for containing a tissue roll 16 and dispensing one or more sheets of tissue fabric from the tissue roll 16. In this regard, the tubular portion 18 has a generally smooth tubular construction with a slot 22 integrally formed therein (as shown in Figure 6). This construction can allow the tissue roll 16 to easily slide within the tubular portion 18 as sheets of tissue fabric are pulled from the tissue roll 16 through the slot 22. As one skilled in the art will understand, this construction allows a person to use relatively little force for withdrawing sheets of tissue fabric from the apparatus 10 without accidentally tearing the tissue fabric. However, it will be appreciated that the tubular portion 18 can instead have a variety of other suitable constructions as desired, e.g. a polygon cross-section or an elliptical cross-section.

[0030] The mounting portion 20 extends from the tubular portion 18 and is utilized for attaching the tissue-dispensing apparatus 10 to the bathroom stall partition 14. This

mounting portion 20 includes a front section 20a that extends from a front side of the tubular portion 18 and a rear section 20b that extends from a rear side of the tubular portion 18. The rear section 20b preferably has a construction that conforms to the contour of the bathroom stall partition 14. In this regard, as shown in Figure 3A, the rear section 20b has a generally planar rear section 20b for attachment to the generally planar bathroom stall partition 14.

[0031] In another embodiment, as shown in Figure 3B, the rear section 20b includes an overhang element 24 for hanging the tissue-dispensing apparatus 10 from the top edge of a bathroom stall partition 14. In addition to the examples described herein, it is contemplated that the mounting portion 20 can have a variety of other suitable constructions for attaching the tissue-dispensing apparatus 10 to the bathroom stall partition 14 or other mounting surface.

[0032] The front and rear sections 20a, 20b of the mounting portion 20 each include one or more openings 26 for allowing one or more fasteners 28 to pass therethrough and attach the tissue-dispensing apparatus 10 to the bathroom stall partition 14. These fasteners 28 are screw fasteners. However, it is understood that the fasteners 28

can instead be rivet fasteners or various other suitable fasteners as desired.

[0033] The rear section 20b further includes an adhesive pad 30 attached thereto for attaching the one-piece contoured sleeve 12 to the partition 14 and preventing the sleeve 12 from separating from the partition 14 as an individual pulls sheets of tissue fabric from the apparatus 10. It will be appreciated that this adhesive pad 30 can be replaced with a magnetic fastener or various other suitable fasteners as desired.

[0034] Referring now to Figure 5, there is shown a plan view of the one-piece contoured sleeve 12 shown in Figures 1 and 2. This Figure illustrates the sleeve 12 in its natural shape before the front and rear sections 20a, 20b of the mounting portion 20 are coupled to each other and then attached to the bathroom stall partition 14. In one embodiment, this one-piece contoured sleeve 12 is comprised of a resilient material, e.g. a plastic material. In this regard, the attachment of the front and rear sections 20a, 20b allows the one-piece contoured sleeve 12 to maintain its shape and contain the tissue roll 16 therein. In other embodiments, the one-piece tubular sleeve 12 can be comprised of a metallic material, a non-resilient material,

or other suitable materials as desired.

[0035] Referring back to Figure 2, the tissue-dispensing apparatus 10 further includes two endcaps 32 for attachment to the tubular portion 18 of the sleeve 12. Each endcap 32 is intended to provide additional coverage of the tissue roll 16, namely the end portions of the tissue roll 16, and prevent contamination of that tissue roll 16. In addition to this embodiment, it is understood that the tissue-dispensing apparatus 10 can instead have one endcap selectively attached thereto or even none as desired.

[0036] Specifically, each endcap 32 is sized for receiving a distal end portion 34 of the sleeve 12 and engaging that distal end portion 34 in a snap-fit engagement. In this way, the endcaps 32 can further protect the tissue roll 16 from being contaminated. In addition, this relatively simple construction allows for easy manufacture and installation of the tissue-dispensing apparatus 10.

[0037] For accomplishing these purposes, in the embodiment shown in Figure 4, each endcap 32 has an annular rib 36 protruding inwardly. This annular rib 36 is intended to fit within an annular groove 38 that is formed within the distal end portion 34 of the sleeve 12. Furthermore, each endcap includes one or more notches 39 for receiving the

distal end portion 34 of the sleeve 12 and allowing the rib 36 to engage the groove 38 of the sleeve 12. As a result, the endcap 32 is attached to the sleeve 12 in the snap-fit engagement. However, it will be appreciated that the groove 38 can be formed within the endcap 32, instead of the sleeve 12. Likewise, the rib 36 can be formed within the sleeve 12, instead of the endcap 32. Additionally, it is further contemplated that various types of fastening methods other than the snap-fit engagement can be utilized for attaching the endcap 32 to the sleeve 12. For example, an endcap may be fixedly attached to the sleeve 12 by screw fasteners.

[0038] The tissue-dispensing apparatus 10 further includes a spindle 40 for insertion into a cardboard core of the tissue roll 16 and mounting that tissue roll 16 within the tubular portion 18 of the one-piece sleeve 12. This spindle 40 has end portions 42 sized for insertion into a pair of apertures 44 formed within their respective endcaps 32. In this way, the tissue roll 16 can be suspended within the tubular portion 18 and an individual can more easily rotate the tissue roll 16 within the apparatus 10 as he unrolls sheets of tissue fabric from the tissue roll 16. The endcaps 32 further include ledge portions 46 extending therefrom for

supporting the end portions 42 of the spindle 40. However, it will be appreciated that the endcaps 32 can have only the apertures 44 formed therein or only the ledge portions 46 extending therefrom for supporting the spindle 40. Furthermore, it is also contemplated that the apparatus 10 may not include the spindle 40, the apertures 44, and the ledge portions 46 as desired.

[0039] While particular embodiments of the invention have been shown and described, numerous variations and alternate embodiments will occur to those skilled in the art. Accordingly, it is intended that the invention be limited only in terms of the appended claims.